

We claim:

- 5        1. A method for treating and/or ameliorating the symptoms of a cerebral ischemic condition in a mammalian subject, comprising administering to the subject an effective amount of a non-alpha tocopherol enriched tocopherol composition, and by said administering, reducing neuronal damage related to said cerebral ischemic condition.
- 10      2. The method of claim 1 wherein the non-alpha tocopherol enriched tocopherol composition is a gamma-tocopherol enriched tocopherol composition.
- 15      3. The method of claim 1 wherein the non-alpha tocopherol enriched tocopherol composition is a gamma-tocopherol metabolite enriched composition.
- 20      4. The method of claim 1 wherein the non-alpha tocopherol enriched tocopherol composition is a beta-tocopherol enriched tocopherol composition.
- 25      5. The method of claim 1 wherein the non-alpha tocopherol enriched tocopherol composition is a beta-tocopherol metabolite enriched composition.
6. The method of claim 1 wherein the non-alpha tocopherol enriched tocopherol composition is a delta-tocopherol enriched tocopherol composition.
7. The method of claim 1 wherein the non-alpha tocopherol enriched tocopherol composition is a delta-tocopherol metabolite enriched composition.
8. The method of claim 3 wherein said gamma-tocopherol metabolite is gamma-CEHC.
9. The method of claim 1 wherein the cerebral ischemic condition is secondary to an occlusion of the cerebral vasculature.
10. The method of claim 9 wherein the occlusion is due to a thromboembolism.
11. The method of claim 1 wherein the cerebral ischemia is due to a spasm of the coronary vasculature.
12. The method of claim 1 wherein the cerebral ischemic condition is secondary to a cessation of cardiac function.

- 13 The method of claim 1 wherein the cerebral ischemic condition is secondary to a cardiopulmonary bypass procedure.

14. The method of claim 1 wherein the cerebral ischemic condition is secondary to a hemorrhagic event in the cerebral vasculature.

5 15. The method of claim 2 wherein said gamma-tocopherol enriched tocopherol composition comprises at least 60% gamma-tocopherol.

16. The method of claim 2 wherein said gamma-tocopherol enriched tocopherol composition comprises at least 65% gamma-tocopherol.

10 17. The method of claim 2 wherein said gamma-tocopherol enriched tocopherol composition comprises at least 70% gamma-tocopherol.

18. The method of claim 2 wherein said gamma-tocopherol enriched tocopherol composition comprises at least 75% gamma-tocopherol.

19. The method of claim 2 wherein said gamma-tocopherol enriched tocopherol composition comprises at least 80% gamma-tocopherol.

15 20. The method of claim 2 wherein said gamma-tocopherol enriched tocopherol composition comprises at least 85% gamma-tocopherol.

21. The method of claim 2 wherein said gamma-tocopherol enriched tocopherol composition comprises at least 90% gamma-tocopherol.

22. The method of claim 2 wherein said gamma-tocopherol enriched tocopherol composition comprises at least 95% gamma-tocopherol.

20 23. The method of claim 2 wherein said gamma-tocopherol enriched tocopherol composition comprises at least 98% gamma-tocopherol.

24. The method of claim 3 wherein said gamma-tocopherol metabolite enriched composition comprises at least 60% gamma-tocopherol metabolite.

25 25. The method of claim 3 wherein said gamma-tocopherol metabolite enriched composition comprises at least 65% gamma-tocopherol metabolite.

26. The method of claim 3 wherein said gamma-tocopherol metabolite enriched composition comprises at least 70% gamma-tocopherol metabolite.

27. The method of claim 3 wherein said gamma-tocopherol metabolite enriched composition comprises at least 75% gamma-tocopherol metabolite.
28. The method of claim 3 wherein said gamma-tocopherol metabolite enriched composition comprises at least 80% gamma-tocopherol metabolite.
- 5 29. The method of claim 3 wherein said gamma-tocopherol metabolite enriched composition comprises at least 85% gamma-tocopherol metabolite.
30. The method of claim 3 wherein said gamma-tocopherol metabolite enriched composition comprises at least 90% gamma-tocopherol metabolite.
- 10 31. The method of claim 3 wherein said gamma-tocopherol metabolite enriched composition comprises at least 95% gamma-tocopherol metabolite.
32. The method of claim 3 wherein said gamma-tocopherol metabolite enriched composition comprises at least 98% gamma-tocopherol metabolite.
- 15 33. The method of claim 4 wherein said beta-tocopherol enriched tocopherol composition comprises at least 50% beta-tocopherol.
34. The method of claim 4 wherein said beta-tocopherol enriched tocopherol composition comprises at least 65% beta-tocopherol.
35. The method of claim 4 wherein said beta-tocopherol enriched tocopherol composition comprises at least 75% beta-tocopherol.
- 20 36. The method of claim 4 wherein said beta-tocopherol enriched tocopherol composition comprises at least 90% beta-tocopherol.
37. The method of claim 4 wherein said beta-tocopherol enriched tocopherol composition comprises at least 95% beta-tocopherol.
- 25 38. The method of claim 4 wherein said beta-tocopherol enriched tocopherol composition comprises at least 98% beta-tocopherol.
39. The method of claim 5 wherein said beta-tocopherol metabolite enriched composition comprises at least 50% beta-tocopherol metabolite.

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40. The method of claim 5 wherein said beta-tocopherol metabolite enriched composition comprises at least 65% beta-tocopherol metabolite.
41. The method of claim 5 wherein said beta-tocopherol metabolite enriched composition comprises at least 90% beta-tocopherol metabolite.
- 5 42. The method of claim 6 wherein said delta-tocopherol enriched tocopherol composition comprises at least 50% delta-tocopherol.
43. The method of claim 6 wherein said delta-tocopherol enriched tocopherol composition comprises at least 65% delta-tocopherol.
- 10 44. The method of claim 6 wherein said delta-tocopherol enriched tocopherol composition comprises at least 75% delta-tocopherol.
45. The method of claim 6 wherein said delta-tocopherol enriched tocopherol composition comprises at least 90% delta-tocopherol.
- 15 46. The method of claim 6 wherein said delta-tocopherol enriched tocopherol composition comprises at least 95% delta-tocopherol.
47. The method of claim 6 wherein said delta-tocopherol enriched tocopherol composition comprises at least 98% delta-tocopherol.
48. The method of claim 7 wherein said delta-tocopherol metabolite enriched composition comprises at least 50% delta-tocopherol metabolite.
- 20 49. The method of claim 7 wherein said delta-tocopherol metabolite enriched composition comprises at least 65% delta-tocopherol metabolite.
50. The method of claim 7 wherein said delta-tocopherol metabolite enriched composition comprises at least 90% delta-tocopherol metabolite.
- 25 51. The method of claim 1 wherein said composition is a nutritional composition.
52. The method of claim 1 wherein said composition is a pharmaceutical composition.
53. The method of claim 1 wherein said composition is administered orally.

54. The method of claim 1 wherein said composition is administered parenterally.

55. The method of claim 1 wherein said composition comprises a non-alpha tocopherol in a range of 1-1000 mg per kg body weight of said mammalian subject.

56. The method of claim 1 wherein said composition comprises a non-alpha tocopherol in a range of 1-50 mg per kg body weight of said mammalian subject.

57. The method of claim 1 wherein said composition comprises a non-alpha tocopherol in a range of 10-100 mg per kg body weight of said mammalian subject.

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